

Project Report

1. Business Need/Opportunity

The accreditation administrators are currently struggling with the current way their accreditation data is managed. The data is managed in an Excel spreadsheet and is therefore difficult for everyone to have the most up to date version. As there is not really a central place/website with accreditation information, it seems many instructors are confused with the whole process. This project would provide a more efficient and organized method to manage the accreditation data and would also provide instructors an area where they can both view and submit their data rather than having this have to be done in different Excel sheets/forms/emails.

2. Project Planning

2.1. Northstar and Carryover Customers

We considered the Northstar customers to be the accreditation administrators within the Faculty of Engineering at the U of R and the carryover customers to be the instructors. We say this because the administrators are the ones who are responsible for providing the data to the instructors and the accreditation board, getting the data from the instructors, and the whole accreditation process. With a better and centralized process in place, the instructors may have an easier time understanding what they need to do and when they need to do it and will therefore make it easier for the administrators to do their job.

2.2. Project Assumptions

1. We must use WordPress
2. We do not have to deliver a fully functional product.
3. We must deliver a complete design and a partially complete product (i.e. a proof of concept)

4. Our completed design must be an MVP, meaning that it must be a design for a site that is usable and provides value to the customer yet can still be expanded on.

2.3. Project constraints:

1. The communication between us (the design team) and the clients was limited. It was limited because of their availability (~10 minutes every week or so) as well as having five other teams who are working with them on the same project.
2. We were limited to using WordPress and some of the things that we had designed in our high-fidelity prototypes required either a paid version of plugins or extensive manual modifications (JSON, HTML, CSS).
3. The project had no budget and therefore we could not have some of the features we wanted to add due to requiring paid plugins.

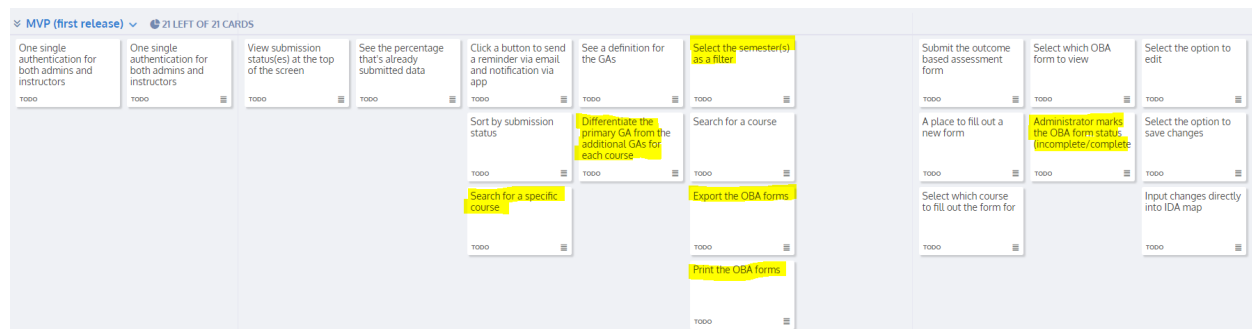
2.4. Key Findings From Affinity Diagramming and Empathy Mapping

Empathy mapping and Affinity diagramming have directed us to the right focus and brought us closer to a clearer sense of customers needs. As stated in the empathy mapping, we have understood that our customers felt that their primary method of working with files is not intuitive and it is difficult to coordinate with instructors. Simply, the empathy mapping has been a guideline for taking qualitative data and observation into account and utilized in our design process. In the empathy mapping, we have figured out that the pain of the process could possibly be communicating the new process with the faculty and instructors but with a good and thoughtful design it could be reduced to little to zero effect and the gain of the process is being more organized and wonderful asset of live synchronization and easier and more intuitive access.

And furthermore, the affinity diagramming has brought us to a sensible frame of the overall story and the design. By only looking at the diagram we have figured out where our focus should be and where the core of the story is. The interesting part is we thought affinity diagramming is for the starting process but as the project moved forward, we have referred to the diagram multiple times and it has been a great asset for the process.

2.5. Evolution of Minimal Viable Product (MVP)

When initially coming up with our MVP, we struggled a little bit to understand how to structure our user story map. With Tim's assistance, we got a better idea of how to do so and met as a team to discuss it. Our team believed that in order for the product to truly be an MVP, we needed to design for the admins and the instructors. In our opinion, it would not have been sufficient to only design for one role as it would not solve the problem. The problem is that the administrators are struggling with everything being manual which causes the instructors to be confused. If we designed only an admin side of the site, this would not solve that problem; the instructors also need to be a part of the MVP as they play a critical part in ensuring the admins can do their jobs. All this to say that perhaps upon first glance our MVP may seem large, we believed this was what was needed. Throughout the project, this did not really change and we were able to achieve a large majority of what we had set out to achieve for our MVP.



Highlighted in yellow are the cards we were not able to get into our MVP. However, with the paid version of Visualizer, differentiating primary/secondary GAs on the table would have been easy to implement; with the paid version of WP Forms, the export and printing of form entries would have been easy to implement and possibly the marking of complete/incomplete. In terms of the search, this was definitely tricky given our site isn't dynamic and is not something we were able to achieve. Our user story map has been updated to reflect these changes.

2.6. Prototyping Activity Finds

The new knowledge our team had on affordances/signifiers/gestalt definitely helped with our designs when prototyping. We especially wanted to focus on creating a site that was intuitive and with that, we told ourselves that if we felt the need to add a lot of signifiers, our site's design was bad. We learnt this through the lectures and certainly felt that it

was true. We tried to stick to using standard icons in our buttons to make it familiar for users. Since we know that people love familiarity, we wanted to include this in our design to make it easier to use.



The mail icon: Signifier & Affordance

This button signifies that it's to send mail and affords to send mail/notification. It's also a metaphor for real life mail as well as a standard since the envelope is generally standard to represent email.

Exclamation mark: Signifier

This button signifies something is wrong and needs attention. The colour red helps do this as red is standard for something bad.

Question mark: Signifier & Affordance

This button affords to provide an explanation when confused and it signifies to click on it if you have questions. Again, the question mark is standard for this and should help a user see familiarity.

Calendar: Metaphor & Affordance

This icon shows that this section of the site represents a calendar (as in real life) and affords to show users upcoming events.

Instructions button: Signifier & Affordance

This button signifies to click on it if you need help with the form and affords to do exactly that: give instructions. Having this button directly on the form is related to gestalt's grouping since given it is on the form, it should be clear that the instructions are related to how to fill out the form.

These buttons/icons were all added because of the comments we received from the customers during our meetings after showing them our prototypes. From our findings, these were the things that were really missing in the Excel spreadsheet and therefore, we wanted to highlight these features by adding the icons/buttons as signifiers and

affordances. In terms of constraints, we have restricted the instructor side of the site to have read access only to the IDA map as we do not want the data to be modified by anyone other than the admins.

3. Project Results

3.1. Feelings Towards Project

For this project, people who have not had this kind of experience will certainly feel a little confused. However, by following each small partial activity step by step, participants will have a better and better grasp of this project. For activity1 “understand” details, what we mainly do is empathy mapping and story map, which is equivalent to gathering everyone's inspirations and then sorting and screening them. In this process, we discuss our views with each other. Good ideas will be supported by everyone and unique ideas will be properly retained. This undoubtedly made everyone in the group familiar with each other. For activity2 Brainstorm, this activity aims to create a sketch of design with paper and pen - that is, our low-fidelity Prototyping. In this activity, we were able to put what we had in mind into practice. Each of us put together a sketch of our own ideas, and then we had the general framework of the whole design. For the activity “build” details, in this activity, we used Adobe XD to construct our High Fidelity Prototyping. This is one of the most exciting activities of all time, because we are able to digitize the design framework, and it is getting closer and closer to what our final product looks like. Among them, this is also the activity that we paid the most time and effort. We constantly improved and modified many versions, and we all had a very pleasant cooperation experience. The last activity was the final build on WordPress, which took longer than we expected at the beginning because we needed to find different plugins and themes in WordPress. This is not an easy thing, because we cannot transfer Prototyping from Adobe XD perfectly, we can only make appropriate choices and changes. However, in general, our project is still of a high degree of completion, and each of us has learned a lot, which is a great inspiration for our future software design career.

3.2. What Went Well / What Went Bad

What we did not do well in this project is that we did not discuss the division of labor in detail in the previous two activities, which resulted in one of our team members completing a lot of work. At the same time, we neglected the weight on GitHub and made one member of the team do all the uploading and summarizing work. This is unfair and reduces the participation of other group members. What we did well was that we learned from the unsuccessful experience of the first two activities in the third activity. We started to plan the arrangement of subsequent activities early and asked each member to continuously improve our design in order. Therefore, we have more time to perfect and improve the current prototyping. Because of this, we can have a more mature final prototyping, which is undoubtedly related to the close cooperation between each member of our team.

3.3. Prototype to WordPress

Our prototype to WordPress translation was excellent. In fact, we were able to achieve our look almost identically. After our meeting with the customers where we showed our high-fidelity prototype, the only thing we drastically changed was the colour scheme of our site. They mentioned that they liked how the other groups stayed consistent with the U of R colours therefore we also transitioned from blue to that. The IDA map pages (admin & instructors) are nearly identical to our high-fidelity prototype and with the pro version of Visualizer, they would be identical since all that is missing is that the required GAs in the table are highlighted.

For the OBA form pages (admin & instructor), the appearance of the data looks a little bit different given our limitations with Visualizer, however, it is still extremely close to what we had designed in the high-fidelity prototype; all of the same functionalities are present. We also removed the manual sort button given that the sorting is built into the Visualizer tables. In the instructor OBA form page, we decided to change the location of the notification bar to the left because of how we read in North America (from left to right). We thought it was most important for the instructors to see their submission requirements first.

The only significant feature we were not able to achieve in WordPress that we planned for in our high-fidelity prototype is for the admin to be able to change roles to view the site as an instructor. Again, this was due to WordPress and time limitations; there is certainly a plugin that allows this but given this wasn't really part of our MVP, we did not follow through with it as we didn't have enough time and we would much rather focus on the MVP features.

3.4. What We Would Do Differently / What We Would Do the Same

It has been a wonderful ride the past 6 weeks of this project. Mistakes are the bone of our growth structure and as mentioned in the lectures, in order to have a good idea you must have many ideas and not all of them are great!

As a team, we do think at some of the process we could be more organized especially at the beginning of the project. A better communication planning and task synchronizing has been implemented to improve the shortages in the initial parts of the project.

Furthermore, In the wordpress design we could have used a lot more interesting features and our lives could be easier if we were not restricted with only certain plugins and themes but that is part of the world and limitations do exist in every project.

3.5. Future Work Design Ideas

Our proof of concept did not have the login properly configured. Because of time, we had difficulties figuring out how to configure conditional menus with the different roles but we were able to figure out how to create different menus for logged in and logged out users. That being said, as of now, if you are logged out, you are viewing the site as an instructor, and if you are logged in, you are viewing the site as an admin. In reality, users should have to login regardless of their role as the accreditation data should be in-house (as stated by Dr. DeMontigny).

Additionally, the ability for admins to change roles to view the site as an instructor is also an interesting feature that we would have liked to implement. There is also a missing piece of our site in the OBA forms section. In the instructor table where they can view their submission status, there is a status marked 'Incomplete'. This status is supposed to indicate that the admin reviewed the form and marked it as incomplete and

therefore the instructor must re-submit their form. As of now, our site does not have the option for admins to mark forms as incomplete. We envision this to be possible by paying for the pro version of WP Forms and when viewing the entries, make it possible to mark forms as complete or incomplete.

4. WordPress

4.1. Theme

The theme we used was the Astra theme and we started off with the Learning Academy starter template. The reason we chose the Astra theme was because it was the theme we worked off of during the lab, therefore a familiar theme for all of us. We used the Learning Academy starter template since it had the 'My Account' option which is something that we wanted since we have different accounts for different roles (admin, instructor). In comparison to the other starter templates, this one seemed to most resemble the feel we were going for.

4.2. Plugins

Ultimate Member

User Rating: 4.5/5 for 1,269 ratings

Last Updated: 4 weeks ago (May 2021)

Active Installations: 200,000+

Use: The plugin is to manage access and roles. In our case, the plugin is to manage what administrators can see and what instructors can see.

Comments: This plugin gave us exactly what we needed to create a login system. We were able to restrict certain pages to roles and create conditional menus depending on whether a user is logged in or out.

Visualizer

User Rating: 4.5/5 for 199 ratings

Last Updated: 2 weeks ago (May 2021)

Active Installations: 40,000+

Use: This plugin is to create and edit charts (tables/pie charts/etc).

Pages: IDA Map Admin - Used for the pie charts and the IDA map

Comments: Compared to wpDataTables, Visualizer is much more intuitive and easy to create pie charts with. wpDataTables requires you to create a table and then create the chart from the table (I wasn't even able to figure out how to do it) whereas with Visualizer, you can create and edit the pie chart colours/font/size easily. Also compared to Tables by Supsystic which I found hard to use as well. The cons of Visualizer is that editing individual cell colours needs to be done with JSON using the free version. It's not easily editable besides the basics such as background colour/cell colour/row colour/etc.

With the paid version, there's a table editor to edit the table directly from the page which is what we want. With pro, there's also an Excel like editor which allows you to easily modify individual cell data which is what we would want to change the colours of the Required GAs in the IDA Map. The most basic pro version, which would suffice for what we would want to do here, is 60 USD.

Popup by Supsystic

User Rating: 4.5/5 for 322 ratings

Last Updated: 2 months ago (April 2021)

Active Installations: 30,000+

Use: This plugin is used to create pop-ups on a specified trigger (upon page load, button click, etc)

Pages: IDA Map Admin - Used to create the popups for the GA definitions

Comments: Pro version for this plugin has additional features however the free version is sufficient for our needs. To create the popups, there are multiple different templates to choose from however personally, I found the custom HTML to be easiest to customize. I was able to modify the colours of the text and the frame using the user interface which was great.

Search & Filter

User Rating: 4.6/5 for 144 ratings

Last Updated: 3 weeks ago (May 2021)

Active Installations: 40,000+

Use: To search for different submission files and tags in order to access the file or download it

Pages: Used for the OBA forms instructor view

Comments: @ Alireza fill this out plz

WP Forms

User rating: 4.9/5 for 9286 ratings

Last Updated: 2 days ago (June 15, 2021)

Active Installations: 4+ million

Use: To create forms that can be submitted.

Pages: OBA Form submission page for instructors.

Comments: With this plugin, unless you have the pro version, you are unable to view form entries. For the basic plan which runs at \$80.00/year, you have the option for unlimited entries and unlimited forms which would be sufficient for this site. The plugin